FAULT LIMITER
BACKUP CURRENT LIMITING FUSE

Description

This standard applies to high voltage backup current limiting fuses and accessories for use on an AC grounded wye 27/15.5 kV system. These current limiting fuses are to be used both in single-phase and three-phase applications.

The fuse shall be a non-expulsion silver element fuse and shall comply with the latest revision of ANSI C37.47 except as amended by this material specification.

This backup current limiting fuse will be used to protect distribution transformers and equipment against low impedance faults.

Construction

Weight: 12 pounds maximum.

Housing: The fuse shall be sealed for outdoor use. The tube shall be reinforced fiberglass, coated with an ultraviolet resistant two-part epoxy paint, and with EDPM rubber skirted sleeve. The fuse must have no external element solder joints.

Terminals: The top terminal shall be single hole spade type suitable for a bolted connector. Tin-plated aluminum shall not be used. The bottom terminal shall be a stud designed to support the limiter in a vertical or horizontal position. The stud shall be approximately 2 inches long, knurled, and have a diameter of 0.33 ± 0.04 inches. Tin-plated aluminum shall not be used.

Electrical Specifications

Voltage Rating:	15.5 kV phase to neutral and 27 kV three-phase on solidly grounded wye system.
Rated Continuous Current:	The backup fuse must be current rated and must coordinate with the respective ANSI K definition fuse links for currents less than 2,000 amperes. The minimum melting time-current characteristic of the limiter shall be greater than the total-clearing TCC of the K-speed fuse link for currents less than the TCC Intersect current
Interrupting Rating:	Shall be a minimum of 50,000 amperes RMS symmetrical.
Basic Insulation:	The BIL rating of the fuse shall be 125 kV.
Radio Influence:	The RIV of the complete device, fuse and connectors shall not be greater than 30 microvolts at 1 megahertz when energized at 17.4 kV.
Maximum Let-Through Ampere Squared Seconds:	The maximum I^2T shall be indicated by the manufacturer.
Leakage Distance:	The leakage distance of the fuse and assembly shall be equivalent to 17 inches of porcelain and shall be a material of proven dielectric integrity.

Labeling

In addition to the fuse markings as required under Section 6.2 of ANSI C37.47, the manufacturer shall provide the date of manufacture, BIL rating, and coordinating K link fuse size. The fuse markings shall be legible and permanently installed on both the fuse and carton. The carton label shall also include the City Light Stock Number.

ORIGINATOR	STANDARDS COORDINATOR	STANDARDS SUPERVISOR	UNIT DIRECTOR
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MATERIAL STANDARD

Packaging

Each fuse, shall be packaged one to a carton and include an eyebolt connector for #4 to #2 copper conductors, bolted to the spade end.

Test requirement

The fuses must be 100% electrically tested before shipment to withstand 95% minimum melt energy without damage.

Data to be Submitted for Qualification as a Manufacturer

The manufacturer shall indicate any exceptions to this material specification and/or any test requirements as outlined in the latest revision of ANSI C37.47.

A. Time-Current characteristic graphs on standard size transparencies.

B. Maximum developed switching surge voltage.

C. Maximum let-through Ampere-Squared-Seconds.

D. TCC intersect point in Amperes with respective coordinating K links.

E. Weight, dimensions, outside body material and leakage distance.

F. Test data on contaminated insulator performance. The test shall be as suggested in Seattle City Light Standard 6840.3, "A Suggested Method for Contaminated Insulator Performance Test for 27 kV System Voltage," or a pre-approved equivalent test method.

G. Certified test data on 15.5 kV interrupting tests at critical current (that current which allows maximum energy let-through).

H. Certified test data on interruption at 15.5 kV where the applied voltage immediately rises to 27 kV and is held for 10 minutes.

I. Certified test data on interrupting three-phase and phase-to-phase faults.

J. Part number for fuse.

Warranty

The manufacturer shall warrant the fault limiter to be free of defects of workmanship and materials when used for the applications as stated in this specification (three-phase operation at 27 kV) for a period of five years from the date of shipment.

Stock Unit: Each

STOCK NO.	K LINK	SIZE	I^2T	TCC INTERSECT	COOPER CAT. NO.
684900	12k	(A)	15,000	450	155 K12-SEA
684902	25k	(B)	40,000	750	155 K25-SEA
684905	50k	(C)	160,000	1000	155 K50-SEA
684907	65k	(D)	200,000	1800	155 K65-SEA